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Introduction

During the 1980s and early 90s, archaeologists who approached their research through the paradigm of gender archaeology were primarily concerned with identifying gender in the archaeological record and evaluating the role of women within the discipline of archaeology. More recently, archaeologists concerned with the representation of gender in the archaeological record have challenged the imposition of contemporary Western ideational views of gender roles and identities onto the past. As many archaeologists (Butler 1990, 1993; Claassen 1992; Claassen & Joyce 1997; Gilchrist 1999; Sorenson 2000; Ardren 2002; Gustafson & Trevelyan 2002; Pyburn 2004) eloquently point out, a Western gender ideology where there is essentially a one-to-one correlation between biological sex and culturally determined gender roles and identities does not accommodate alternative systems of heterarchic gender relations. In other words, gender roles and identities in many societies are not simply a reflection of biological sex, and gender relations are not necessarily hierarchical, as they are to a large extent in Western cultures and societies today.

In no other area of archaeology has this been made more clear than in Mesoamerica. Beginning with the work of Schele and Miller (1986), and elaborated on by the seminal works of Joyce (1992, 1993, 1996, 1999, 2000), gender roles and identities among the ancient Maya are thought to be fluid and complementary. This is not to say that women and men did not perform different roles or have different identities. Rather, it is to say that gender roles and identities were thought of as interdependent, and were brought together in a system that treated both male and female roles as essential to the continued success of society.

Although Joyce spearheaded the movement towards this understanding of ancient Maya gender ideology through her analysis of the representation of gender in Mayan art and monumental architecture, over the last decade or so others have followed suit. Looper (2002), in his study of Classic period cosmology and rulership, shows how the often paired Maize God/Moon Goddess are both characterized by feminine and masculine traits, and that when Maya elites personified these two deities in ceremonial contexts, they took the form of a third gender that combined these masculine and feminine aspects. Similarly, Reilly (2002) demonstrates, through an analysis of costumes portrayed in reliefs at Palenque, that rulers here embodied both feminine and masculine qualities under certain circumstances and that this was required for the validation of rulership. Bassie-Sweet (2002) illustrates through an analysis of Mayan mythology, art, and literature how the Maya ordered their world through complementary pairing of subjects and objects, including male/female, right/left, and senior/junior, among others. Fekete (1996) and Pyburn (2004), through their analyses of burials, suggest that there was virtually no difference in how the Maya treated males and females in death. Although far from exhaustive, it should be evident from this synopsis that the blurring of boundaries between male and female identities is expressed in many contexts and through a variety of mediums. Gustafson and Trevelyan (2002:1) suggest that gender ideology can be and has been teased out from inscriptions, myths, architecture, painting, ceramic and textile art, burial remains, and a myriad of other sources.

Given the literature theorizing how the body can reflect societal norms, beliefs, and values (Foucault 1986), it seems that the corporeal body could reflect gender ideology as well. As Sorenson (2000:124) asserts, dress is a central medium for both the acquiring of socially ascribed identities and the communication of them. In fact, expressing one's identity either through body modification, decoration, or clothing has already been documented among many cultures throughout history, including the ancient Maya (see Shanks & Tilley 1982; Yates & Nordbladh 1990; Kus 1992; Marcus 1993; Yates 1993; Shanks 1995; Knapp & Meskell 1997; Meskell 1998; Montserrat 1998; Osborne 1998; Joyce 1998, 1999, 2000, 2001; and Gilchrist 1999). In this paper I argue that much like the expression of Maya gender ideology in the representation of the body in art, gender ideology is similarly expressed through intentional body modification. My hypothesis is that males and females should show little difference in how they modified their bodies given a gender ideology that views male and female identities and roles as fluid and complementary. Intended as a preliminary study, this paper demonstrates that there are no significant differences between males and females in terms of preferences for specific forms of cranial and dental modifications.

Methodology and Sample

I performed two analyses using skeletal remains from several sites including Cuello, Rio Azul, Iximche, Seibel, Altar de Sacrificios, Lubaantun, Altun Ha, Uaxactun, Yaltutu, Ixtonton, Chau Hiix, Tipu, and Zaculeu, and from all time periods. Both analyses were performed to see if any significant changes to the patterns that emerged occurred as a result of removing samples where sex determinations were questionable. The first analysis includes all examples of cranial and dental modifications where sex was reported, except where there was some confusion over the exact type of cranial and/or dental modification (i.e. burials 45, 105, and 136 from Cuello, and burials from tomb 23 at Rio Azul). In all other cases I simply took the word of the archaeologist at face value and included them in my analysis. Table 1 summarizes the breakdown of the total number of individuals used in this analysis in terms of period, sex, and number of individuals with cranial and/or dental modifications.

Table 1. Breakdown of Skeletal Samples used in Analysis 1

	Total	Pre-classic	Classic	Post-classic
Total N	185	17	111	57
Total Males	114	12	68	35
Total Females	71	5	44	22
Males w. Cranial Modifications	69	8	33	28
Females w. Cranial Modifications	42	4	18	20
Males w. Dental Modifications	55	5	43	7
Females w. Dental Modifications	42	3	34	5

My second analysis excluded all samples where sex determinations were questionable. Questionable sex determinations refer to those remains of individuals who were reported as male or female and had either a question mark beside these determinations and/or upon examining the actual burial descriptions it was found that skeletal elements most suitable for sexing were not present or were decayed to the point where sex determinations were done using less reliable means. For example, from Altun Ha burials E44/13, E44/5, E44/2, and K29/7 were excluded because of differences between sex determinations made in the field and sex determinations made in the lab. In total, 37 skeletal samples were removed for the second analysis. Table 2 summarizes the breakdown of the numbers of individuals used in the second analysis in terms of period, sex, and number of individuals with cranial and/or dental modifications.

Table 2. Breakdown of Skeletal Samples used in Analysis 2

	Total	Pre-classic	Classic	Post-classic
Total N	148	15	89	44
Total Males	94	10	57	27
Total Females	54	5	32	17
Males w. Cranial Modifications	67	8	32	27
Females w. Cranial Modifications	34	4	15	15
Males w. Dental Modifications	43	3	33	7
Females w. Dental Modifications	32	3	24	5

Due to variable reporting practices by different archaeologists, I had to reconcile some of the descriptions of cranial and dental modifications with typologies developed by Dembo and Imbelloni (1938 & 1950 in Comas 1960) and Romero (1970) respectively. In excavation reports using other methods of describing cranial modifications, I equated fronto-occipital and fronto-vertico-occipital flattening with tabular erect styles; parallelo-fronto-occipital flattening with tabular oblique styles; and psuedocircular modification with a general orbicular style. I made no distinction between sub-types of tabular erect, tabular oblique, or orbicular styles because the level of detail in descriptions required to make these distinctions were more often than not unavailable. I also translated descriptions of dental modifications using Borbolla's (1940) classification system into Romero's (1970) more comprehensive classification system, and in some cases (i.e. Uaxactun) where dental modifications were noted but types were not identified I had to identify the types using the figures provided. Despite this, there were still some examples of tooth modifications that did not fit Romero's typology and I simply added new categories to accommodate them (i.e. type G from burial 95 and type I from burial 112 at Altar de Sacrificios and a new type of inlay from burial PSP-017 at Yaltuta). For a complete

breakdown by site and period of the burials containing the skeletal samples used in both analyses with descriptions of cranial and dental modifications see Appendix A. The bolded burials identify skeletal samples that were excluded from the second analysis.

For the analysis, I compared the different proportions of particular types of cranial and dental modifications preferred by males and females using a z-test. The z-test is suited to this type of analysis because it compares the proportion of cranial and dental modification types between males and females taking sample size into consideration. In this way it is possible to test if 35% of 50 males and only 14% of 35 females prefer tabular erect cranial modifications, and if this difference represents a real preference for this type of modification in males over females or if the difference simply reflects a sampling bias where the sample does not represent the true distribution of this type of modification in the living population. For the purposes of this paper, given that identity is often expressed through body modification, if significant differences do not exist then this supports the notion of gender fluidity. Conversely, if significant differences do exist then at least on some level males and females must have been thought of as distinct and gender may not have been fluid in all aspects of life.

Problems and Limitations

At the outset of this research project I was perhaps overly ambitious in hoping to compare cranial and dental modifications between the sexes using only skeletal remains where sex determinations were relatively accurate. It quickly became apparent that this was untenable for several reasons. Much of the burial data available, including analysis of skeletal remains, comes from excavations that occurred during the first three-quarters of the 20th century prior to the development of standard guidelines for determining sex as outlined in Bass (1987) and Buikstra and Ubelaker (1994). Rather than using skeletal elements such as the subpubic region of the os coxae, the greater sciatic notch, or the presence of a preauricular sulcus for determining sex, many earlier analyses were done using less accurate methods involving indices of cranial size, skull thickness, tooth size, and long-bone measurements that were based simply on the sexual dimorphism between males and females. However, it is worth noting that in many cases, even today, these are the only means available for sexing individuals because the nature of preservation in Mesoamerica is such that skeletal elements most suitable for sexing frequently decompose beyond the state required for analysis. Additionally, although all reports summarized each burial along various dimensions (i.e. period, burial type, position of body, sex, etc.) whenever possible, not all of them discussed the condition of the skeletal remains or the methods used to determine sex. For example, in some cases where cranial size was used for determining sex there was no mention as to whether the nuchal crest, mastoid process, supraorbital margin, glabella, or mental eminence was analyzed. Given these problems the accuracy of many of the sex determinations made in Mayan archaeology can be questioned.

Despite these limitations it is still the job of an archaeologist to proceed with the data on hand. In order to get a substantial sample size for analysis, I pooled skeletal samples from different time periods, sites, and contexts. Because my primary concern is with looking at patterns in cranial and dental modifications along sex lines, an aggregate sample using remains from different periods, sites and contexts does not pose any significant problems that cannot be addressed. This is not to say that there are *no* problems with this approach. On the one hand, I could be ignoring the possibility that there were different motivations for having cranial and dental modifications done during different periods, at different sites and in different contexts because by pooling samples together I am masking inter-site, inter-period and inter-context variability. On the other hand, if there were real differences in the gendered identities of males and females, and these identities were expressed through cranial and dental modifications, then these patterns should emerge by looking at the sample population in total regardless of the site, period or context. This is, of course, unless the patterns from one site, period or context cancel out the patterns from another site, period or context.

As a way of guarding against these problems, I compared the patterns that emerged using the entire sample with patterns that emerged from each period and site. If significant differences between periods and sites do exist, then a case could be made for different underlying motivations and possibly differences in gendered identities. Conversely, if there is little variation in the patterns that emerge between periods and sites then the overall pattern appears more valid. No attempt was made to control for inter-context variability as it has been

shown elsewhere that cranial and dental modifications were performed on individuals regardless of social status (Romero 1970; Teisler Blos 1999). Here, context refers to the location and type of burial as these two characteristics are the primary indicators used to infer the social status of interred individuals. However, whereas elites and non-elites do not differ much in terms of specific forms of cranial modifications, they do differ substantially in terms of specific forms of dental modifications, and, as will be discussed below, this has implications for explaining the implicit and explicit messages that these forms of modifications communicate.

Any results of this analysis must be viewed with caution because of the probability of sampling bias on two levels: 1) the periods, sites, and contexts from which the skeletal sample is drawn is hardly exhaustive and until more data can be added any results must be viewed as tentative, and 2) the Mayan burial population may not be representative of all sectors, levels, or dimensions of the living population of the past. As such, even though patterns in cranial and dental modification may emerge from a study of the skeletal remains, the degree that these patterns actually reflect the behaviours of all of the ancient Maya is circumspect.

Results

Table 3 shows the total numbers and proportions of cranial modification types for both males and females for all periods using the entire skeletal sample.

Table 3. Distribution of Cranial Modification Types using the Entire Skeletal Sample

	Total Sample		Pre-classic		Classic		Post-classic	
Males w. Lambdoid and/or Occipital Flattening	17	24.64%	5	62.50%	5	15.15%	7	25.00%
Females w. Lambdoid and/or Occipital Flattening	7	16.67%	3	75.00%	2	11.11%	2	10.00%
Males w. Tabular Erect	40	**57.97%**	**3**	**37.50%**	**16**	**48.48%**	**21**	**75.00%**
Females w. Tabular Erect	20	**47.62%**	**0**	**0.00%**	**6**	**33.33%**	**14**	**70.00%**
Males w. Tabular Oblique	9	**13.04%**	**0**	**0.00%**	**9**	**27.27%**	**0**	**0.00%**
Females w. Tabular Oblique	13	**30.95%**	**1**	**25.00%**	**9**	**50.00%**	**3**	**15.00%**
Males w. Orbicular	3	4.35%	0	0.00%	3	9.09%	0	0.00%
Females w. Orbicular	2	4.76%	0	0.00%	1	5.56%	1	5.00%

Table 4 shows the total numbers and proportions of cranial modification types for both males and females for all periods without questionably sexed individuals.

Table 4. Distribution of Cranial Modification Types without Questionably Sexed Individuals

	Total Sample		Pre-classic		Classic		Post-classic	
Males w. Lambdoid and/or Occipital Flattening	17	25.37%	5	62.50%	5	15.63%	7	25.93%
Females w. Lambdoid and/or Occipital Flattening	6	17.65%	3	75.00%	1	6.67%	2	13.33%
Males w. Tabular Erect	39	**58.21%**	**3**	**37.50%**	**16**	**50.00%**	**20**	**74.07%**
Females w. Tabular Erect	14	**41.18%**	**0**	**0.00%**	**5**	**33.33%**	**9**	**60.00%**
Males w. Tabular Oblique	8	**11.94%**	**0**	**0.00%**	**8**	**25.00%**	**0**	**0.00%**
Females w. Tabular Oblique	13	**38.24%**	**1**	**25.00%**	**9**	**60.00%**	**3**	**20.00%**
Males w. Orbicular	3	4.48%	0	0.00%	3	9.38%	0	0.00%
Females w. Orbicular	1	2.94%	0	0.00%	0	0.00%	1	6.67%

The bolded numbers and percentages in both tables indicate the noticeable differences that were subjected to z-tests. Table 5 shows the z-scores and p-values when comparing tabular erect and tabular oblique proportions of males

and females. Z-tests were not performed on the proportions of cranial modification types in each period because sample sizes were smaller in these periods and because one can simply observe these proportions and see that the patterns are fairly consistent throughout.

Table 5. Z-Scores and P-values comparing Tabular Erect and Tabular Oblique Cranial Modifications between Males and Females

	Z-Scores	P-Values
Tabular Erect – Males vs. Females	1.0938	0.2740
Tabular Oblique – Males vs. Females	-1.4524	0.1464

Table 6 shows the total numbers and proportions of types B-5 and E-1 dental modifications while Table 7 shows the z-scores and p-values resulting from comparing the proportions of these dental modifications between males and females.

Table 6. Distribution of types B-5 and E-1 Dental Modifications

	Total # of Individuals	Proportion
Males with B-5 dental modifications	6	13.95%
Females with B-5 dental modifications	9	28.13%
Males with E-1 dental modifications	12	27.91%
Females with E-1 dental modifications	3	9.38%

Table 7. Z-scores and P-values comparing types B-5 and E-1 Dental Modifications between Males and Females

	Z-Scores	P-Values
Type B-5 Males vs. Females	-0.6722	0.5014
Type E-1 Males vs. Females	0.7177	0.4729

Z-tests were run only on these types of dental modifications because most types of dental modifications had none or only a couple of examples and/or the difference in proportions between the sexes were negligible. Furthermore, given the small number of examples for most types of dental modifications, z-tests were only run on the skeletal sample without questionably sexed individuals, as running z-tests on both samples would have been redundant. For a complete listing of the total numbers and proportions of all dental modification types for both males and females using both the entire skeletal sample and without questionably sexed individuals see Appendix B.

As the tables clearly show, while there are differences in the proportions of specific forms of cranial and dental modifications between males and females, these are not statistically significant. As will be discussed below this is what one would expect given the fluidity of gender roles and identity in ancient Mayan society.

Discussion

The earliest accounts of cranial and dental modification among the Maya come from ethnohistoric (e.g. Landa 1966, 1975), ethnographic (e.g. Book of Chilam Balam of Chumayel) and archaeological (e.g. Dingwall 1931; Borbolla 1940; Linne 1940; Fastlicht 1948; Stewart 1953) sources. Among Mayan archaeologists, whether or not the underlying motivations for cranial and dental modification have a religious, ideological, socio-political, aesthetic, or other basis has been debated for some time. Dingwall (1931) suggests an association between cranial modification practices with the ruling classes and Stewart (1953, 1975) notes that there were chronological and regional differences in the distribution of

cranial deformity types. Linne (1940) suggests that dental modification may have a religious connection, whereas Borbolla (1940) posits that dental modification was done largely for decorative purposes and that certain types of modifications were related to social status. Fastlicht (1948) agrees with both Linne and Borbolla, offering that dental modification is indicative of social status and was performed for decorative and/or ritual purposes. By 1970, Romero (1970) demonstrates that the existing body of Maya burial data shows that dental modifications were performed on high and low status individuals alike and does not support the idea that dental modification relates to social status. Instead, Romero (1970:55-56) asserts, as do Linne, Borbolla, and Fastlicht, that the stylistic association between specific forms of dental modification and representations of tigers and male and female gods suggests a religious connection to this practice.

More recently, Tiesler Blos (1999:3-5) suggests that cranial modification is an important indicator of Maya social integration or differentiation such as gender and residence patterns whereas chronological, regional, and gender differences in dental modifications indicate a social role for this practice that can be linked to spheres of family interaction within households and between them. Lopez-Olivares (1997:107) asserts that tooth alteration was a rite of initiation when a person reached a certain age to receive some charge or office and in many cases relates to religion and ideology. In both of these cases, cranial and dental modifications are seen as implicitly or explicitly expressing social roles, identities, or boundaries depending on the context.

As mentioned in the introduction, gender roles and identity among the Maya have been interpreted from a number of contexts and through a number of media, including through body modification, decoration, and clothing. Joyce (2002:83) suggests that clothing documents the formation of specific social personae into which the signs of individual identity, including gender, could be inserted. Geller (1994) argues that identity formation at all social levels among the Maya was consciously embedded in the bodies of individuals through intentional manipulation. Although she focuses on the post-mortem modification of remains for desecration and ancestor veneration, I see no reason to doubt that identity was also expressed through the manipulation of the body during life. Indeed, if gender is to be viewed as a performance that takes shape through gesture, costuming, and setting as Butler (1990, 1993) asserts, then we should expect gender roles and identities to be expressed through body modification.

By far the most frequently studied medium for elucidating Maya gender ideology is art; including figurines, murals, hieroglyphic inscriptions and iconography (see Joyce 1992, 1993, 1996, 1999; Lesure 1997; Hewitt 1999; Ardren 2002; Bassie-Sweet 2002; Gustafson 2002; Josserand 2002; Krochoch 2002; Looper 2002; Reilly 2002; Vail & Stone 2002). In art, the representation of males and females as androgynous and the concomitant presence of other elements that signify gendered identities and roles (i.e. aspects of costuming or presence of specific markers for gender in hieroglyphs), has provided the basis for our understanding of the ontological status of gender among the ancient Maya. That is to say, our understanding of how the Maya conceptualized male and female gendered identities and how they made meaningful distinctions between women and men in different contexts, comes primarily from how the body is represented in art.

As a forum of expression, art was very effective for making public statements about proper gender roles and identity because of its resonance with many social sectors of society and because its meanings had developed from common understandings like those represented in the Popul Vuh (Gustafson & Trevelyan 2002:4). Furthermore, by de-emphasizing sexual characteristics and subsistence labours in art, the reproduction of the current socio-political system including existing hierarchal relations appears to be the desired outcome (Cohodas 2002:31). In other words, art reaffirmed a gender ideology that already resonated within the minds of the people and communicated an explicit message aimed at legitimizing the political authority of the elites. Here, I am talking exclusively about public art such as that found on Copan Stela H, Naranjo Stela 24, and Lintel 24, Yaxchilán. Borrowing from Bourdieu's (1977) theory of practice, art in this sense reaffirmed, on the one hand, an individual's *doxic* sense of the naturalness of the existing socio-political system including the beliefs, values, and norms shared by the people and, on the other hand, represented the agentive social action of the elites who commissioned the art for propaganda purposes. Although Bourdieu can be critiqued for viewing intentional and habituated behaviours as mutually exclusive (see Dornan 2002, Throop &

Murphy 2002), Mayan art clearly does reflect *both* unconscious (or subconscious) and conscious social action, or, a "practical consciousness" where habituated social action is not necessarily unconscious (Giddens 1979, 1991).

Much like art, people from all social sectors of society were the intended audience for cranial and dental modifications. By their very nature cranial and dental modifications must have been meant for public consumption because they were seen primarily by others and not by the individuals who had them done. This is not to deny the underlying motivations for having these modifications done or to belittle the possible aesthetic gratitude that may have been felt by the individuals who had these modifications done. Rather, it is to suggest that these practices had, at least partially, a communicative function. Given this, the questions that need to be answered are, what were the ancient Maya trying to communicate, and do these messages reflect the unconscious dispositions embedded in the *habitus* of individuals or were they consciously intended to signify something else altogether, or both? In other words, were cranial and dental modifications, and the explicit and implicit messages that they embody, structurally determined or influenced by agentive social action? In all likelihood, as in most social action, both structural and agentive factors influenced the decisions of individuals to select for specific forms of cranial and dental modification. However, the degree to which structural verses agentive factors account for specific forms of modification differ between cranial and dental modifications.

On the one hand, cranial modifications were performed on infants. As such, the selection for specific forms of cranial modification reflects the habituated and intentional actions of the individuals responsible for shaping the heads of infants and not the infants themselves. In the skeletal sample used in this analysis, tabular erect and oblique forms of cranial modifications were found from many sites including Uaxactun, Rio Azul, Zaculeu, Altar de Sacrificios, Iximche, and Seibel; from a variety of contexts including tomb burials, platform burials, and simple cists and graves; and throughout the Classic and Post-classic periods. The ubiquitous presence of these forms of cranial modifications in these sites, contexts, and periods, coupled with an overall lack of variation in expression (i.e. tabular erect and oblique are by far the most common forms of cranial modification within the Maya area) and lack of difference between males and females, indicates that structural factors largely limited this practice.

I offer that a Mayan gender ideology, where male and female identities were fluid and complementary, was embedded in the unconscious dispositions of the individuals responsible for choosing which forms of cranial modifications were to be performed on infants. Similar to the representation of the body in art, cranial modifications also reflect a common understanding of the naturalness of the existing Maya gender ideology. The one caveat here is that it is entirely possible that the typology developed by Dembo and Imbelloni does not reflect the categories of cranial modifications that were recognized by the ancient Maya. If this is the case then the degree to which cranial modifications reflect unconscious dispositions rather than conscious intentions has been overestimated. Nonetheless, the fact that males and females show tabular erect and oblique forms of cranial modification in similar proportions speaks volumes about the way in which gender ideology is embedded in the psyche of the Maya and reflected in their bodies.

On the other hand, although there is also little difference in specific forms of dental modification between males and females, they do differ greatly between contexts. For example, many of the burials found in elite compounds or elabourate structures and burials containing a substantial quantity of exotic grave goods contain individuals who have similarly elaborate dental modifications, often with inlays of exotic materials or more complex filing patterns (e.g. burials 23 and 128 from Altar de Sacrificios, burials E-7/2 A & B, E-7/40 A, and E-44/13 at Altun Ha, and burials A34, A40, and A51 from Uaxactun). In contrast, virtually none of the burials coming from simple cists or graves have elabourate dental modifications with expensive inlays or complex filing patterns. The point here is that contrary to cranial modifications which are largely structurally determined and where gender ideology is unconsciously expressed, dental modifications, although they may also unconsciously reflect gender ideology, also signify something else entirely, such as social status, family boundaries, religious practice, or an office as has been suggested by numerous archaeologists (see Borbolla 1940; Linne 1940; Fastlicht 1948; Romero 1970; Lopez-Olivares 1997; Tiesler Blos 1999). Where the choice for specific forms of cranial modifications was the responsibility of someone other than the infant

who was having the modification done to them, dental modifications were done almost exclusively on individuals with permanent dentition. Thus, the choice for specific forms of dental modifications reflects the decisions of these individuals, and these individuals in all likelihood were of sufficient age to hold a specific office or position or status within society. Compared to cranial modifications then, agentive factors have a much larger influence on the choice for specific forms of dental modification and it is this other signification that overrides the expression of gender ideology.

Conclusions

In this paper I have argued, like many others, that a Maya gender ideology where gender roles and identities are fluid and complementary is expressed in a number of contexts, especially in how the Maya represented their bodies in art. Rather than depicting sexual characteristics that identify male and female figures, males and females in Mayan art are represented as androgynous figures where aspects of costuming or other markers are used to signify social roles and identities, including gender. In arguing this, I have drawn from Bordieu and Giddens in order to provide the necessary framework for explaining how the representation of the body in art reflects both a habituated gender ideology that is embedded in the practical consciousness, or subconscious, of an individual and the overt political propaganda of the elite. Thus, the representation of the body in art reflects both structural and agentive forces.

As Gero and Scattolin (2002:158-161) rightly point out though, simply referring to gender relations among the Maya as complementary and fluid implies that all relations and all aspects of the gender ideology of the Maya are complementary and fluid at all times. In doing so, we are ignoring the enormous variability in gender relations and are negating the specificities that mark gender relations as complementary and fluid in some contexts, and hierarchical and rigid in other contexts (Gero & Scattolin 2002:158-159). Furthermore, we are implicitly presenting gender as a static phenomenon rather than as a process or set of relationships that can differ from moment to moment within an individual's life and that are embedded in and cut-across other cultural categories such as status, class, age, or ethnicity (Gero & Scattolin 2002:160). What is needed is a more nuanced understanding of when, and in what contexts, gender can be considered as complementary and fluid or as hierarchical. This will undoubtedly be a concern of much future research on gender in archaeology, and it is towards this end that the research presented in this paper is directed.

Drawing from the literature describing how identity is reflected in body modification, decoration, and clothing, I have suggested that gender ideology is implicitly embodied in the way the Maya practiced cranial, and to a lesser extent dental, modifications. If gender roles and identities among the Maya were rigid and differentiated according to biological sex, as they are to a large extent in contemporary Western society, then we would expect there to be significant differences between men and women in terms of how they modified their bodies. As I have demonstrated in this analysis, this is not the case. On the one hand, cranial modifications reflect largely structural influences including a habituated gender ideology that stresses complementarity and fluidity. On the other hand, dental modifications reflect largely agentive influences such as the status, religious beliefs, or office of the individuals who had their teeth modified. In this sense, dental modifications reflect gendered roles and identities that are subsumed under more significant cultural categories that are probably more rigid and distinct. Thus, analyzing cranial and dental modifications is an effective method for realizing both a fuller and more nuanced understanding of where and how gender relations are expressed as complementary and fluid and as hierarchical and rigid.

As mentioned throughout, there are several caveats with the methodology employed here, many of which can be resolved given more time and better data. Specifically, the questionable accuracy of the sex determinations for many of the skeletal remains used in this analysis makes the patterns that emerged problematic to say the least. This can conceivably be reconciled by restricting analysis to skeletal remains that have been sexed using only the most accurate methods and appropriate elements. Additionally, burial sampling bias on two levels calls into question the appropriateness of extending any patterns that emerged from this analysis to the living population of the past. This can also be rectified by obtaining a larger skeletal sample. Given the probability of reconciling these shortcomings by adding to the database, it is my hope that the approach and theoretical framework presented here will provide future researchers with another

meaningful way to explore gender relations and ideology of the Maya.

Works Cited

Ardren, T. 2002. *Ancient Maya Women*. Walnut Creek, CA: Altamira Press.

Bass, W.H. 1987. *Human Osteology: A Laboratory and Field Manual*. Columbia, Mo. Special Publication No. 2 of the Missouri Archaeological Survey.

Bassie-Sweet, K. 2002. "Corn Deities and the Male/Female Principle." In *Ancient Maya Gender Identity and Relations*. Gustafson, L.S & A.M. Trevelyan, (editors) pp. 169-190. Westport, CT: Bergin & Garvey.

Borbolla, D.F.R. 1940. Types of tooth mutilation found in Mexico. *American Journal of Physical Anthropology*. 26:349-365.

Bourdieu, P. 1977. *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Butler, J. 1990. *Gender Trouble, Feminism and the Subversion of Identity*. London: Routledge.

Butler, J. 1993. *Bodies that Matter: On the Discursive Limits of 'Sex'*. London: Routledge.

Claassen, C. (editor) 1992. *Exploring Gender in Archaeology: Selected Papers from the*

Claassen, C. 1991. Boone Conference. Monographs in World Archaeology II. Madison WI: Prehistory Press.

Claassen, C. and R.A. Joyce (editors). 1997. *Women in Prehistory: North America and Mesoamerica*. Philadelphia: University of Pennsylvania Press.

Cohodas, M. 2002. "Multiplicity and Discourse in Maya Gender Relations." In *Ancient Maya Gender Identity and Relations*. Gustafson, L.S. & A.M. Trevelyan, (editors) pp. 11-54. Westport, CT: Bergin & Garvey.

Comas, J. 1960. *Manual of Physical Anthropology*. Springfield, Ill.: Charles C. Thomas.

Dingwall, E.J. 1931. *Artificial cranial deformation*. Ch. 8. London: J. Bale & sons and Danielson Ltd.

Dornan, J. 2002. Agency and Archaeology: Past, Present, and Future Directions. *Journal of Archaeological Method and Theory* 9(4):303-329.

Fastlicht, S. 1948. Tooth mutilations in Pre-Columbian Mexico. *Journal of American Dental Association* 36:315-323.

Fekete, E. 1996. Excavating Gender: Rethinking the archaeology of Maya mortuary practice. Unpublished MA thesis in Interdisciplinary Studies, York University, Toronto.

Foucault, M. 1986. *The Care of the Self: The History of Sexuality, Volume III*. Harmondsworth: Penguin.

Gellar, P. 1994. Transforming Bodies, transforming identities: A consideration of pre-Columbian Maya corporeal beliefs and practices (Belize). Unpublished doctoral dissertation, University of Pennsylvania.

Gero, J.M and M.C. Scattolin 2002. Beyond Complimentary and Hierarchy: New Definitions for Gender Relations'. In *Pursuit of Gender: Worldwide Archaeological Approaches*, Nelson, S.M. & M. Rosen-Ayalon (editors) pp. 155-172. Walnut Creek, CA: Altamira Press.

Giddens, A. 1979. *Central Problems in Social Theory: Action, Structure, and Contradiction in Social Analysis*. Berkeley: University of California Press.

Giddens, A. 1991. *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford: Stanford University Press.

Gilchrest, R. (editor) 1999. *Gender and Archaeology: Contesting the Past*. London: Routledge.

Gustafson, L.S. 2002. "Shared Gender Relations: Early Mesoamerica and the Maya." In *Ancient Maya Gender Identity and Relations*. Gustafson, L.S. & A.M. Trevelyan (editors) pp. 55-74. Westport, CT: Bergin & Garvey.

Gustafson, L.S. and A.M. Trevelyan (editors) 2002. *Ancient Maya Gender Identity and Relations*. Westport, CT: Bergin & Garvey.

Hammond, N. 1991. *Cuello: an early Maya community in Belize*. Cambridge: Cambridge University Press.

Havill, L *et al.* 1997. "Late Postclassic tooth filing at Chau Hiix and Tipu, Belize." In *Bones of the Maya: Studies of Ancient Skeletons*. Whittington, S.L. & D.M. Reed (editors) pp. 89-104. Washington: Smithsonian Institution Press.

Hewitt, E. 1999. What's in a Name: Gender, Power, and Classic Maya Women Rulers. *Ancient Mesoamerica* 10:251-262.

Josserand, J.K. 2002. "Women in Classic Maya Hieroglyphic Texts." In *Ancient Maya Women*. Ardren, T. (editor) pp. 114-151. Walnut Creek, CA: Altamira Press.

Joyce, R.A. 1992. "Images of Gender and Labor Organization in Classic Maya Society." In *Exploring Gender through Archaeology: Selected Papers from the 1991 Boone Conference*. Claassen, C. (editor) pp. 63-70. Monographs in World Archaeology, II. Madison, WI: Prehistory Press.

Joyce, R.A. 1993. Women's Work: Images of Production and Reproduction in Pre-Hispanic Southern Central America. *Current Anthropology*. 34:255-274.

Joyce, R.A. 1996. "The Construction of Gender in Classic Maya Monuments." In *Gender and Archaeology: Essays in Research and Practice*. Wright, R.P. (editor) pp. 167-195. Philadelphia: University of Pennsylvania Press.

Joyce, R.A. 1998. Performing the Body in Prehispanic Central America. *RES: Anthropology and Aesthetics* 33(Spring):147-166.

Joyce, R.A. 1999. "Symbolic Dimensions of Costume in Classic Maya Monuments: The Construction of Gender through Dress." In *Mayan Clothing and Weaving through the Ages*. de Arathoon, B.K. *et. al* (editors) pp. 29-38. Guatemala City: Museo Ixchel del Traje Indigena.

Joyce, R.A. 2000. *Gender and Power in Prehispanic Mesoamerica*. Austin: University of Texas Press.

Joyce, R.A. 2001. "Performance and Inscription: negotiating sex and gender in Classic Maya society." In *Gender in Prehispanic America*. Klein, C. (editor) pp. 107-139. Washington DC: Dumbarton Oaks.

Joyce, R.A. 2002. "Beauty, Sexuality, Body Ornamentation, and Gender in Ancient Meso-America." In *Pursuit of Gender: Worldwide Archaeological Approaches*. Nelson, S.M. & M. Rosen-Ayalon (editors) pp. 81-91. Walnut Creek, CA: Altamira Press.

Knapp, A.B and L.M. Meskell. 1997. Bodies of Evidence in Prehistoric Cyprus. *Cambridge Archaeological Journal* 7(2): 183-204.

Krochoch, R.J. 2002. "Women in the Hieroglyphic Inscriptions of Chichen Itza." In *Ancient Maya Women*. Ardren, T. (editor) pp. 152-170. Walnut Creek, CA: Altamira Press.

Kus, S. 1992. "Toward an Archaeology of Body and Soul." In *Representations in Archaeology*. Gardin, J.C. & C. Peebles (editors) pp. 168-177. Bloomington: Indiana University Press.

Landa 1966. *Relacion De Las Casas De*

Yucatan/ a translation. A.M. Tozzer (editor) New York: Kraus Reprint Corporation.

Landa 1975. *The Maya: Diego de Landa's account of the affairs of Yucatan*. A.R. Pagden (editor) Chicago: J.P. O'Hara Inc.

Lesure, R. 1997. "Figurines and Social Identities in Early Sedentary Societies of Coastal Chiapas, Mexico, 1550-800 B.C." In *Women in Prehistory: North America and Mesoamerica*. Claassen, C. & R. Joyce (editors) pp. 227-248. Philadelphia: University of Pennsylvania Press.

Linne, S. 1940. Dental decoration in aboriginal America. *Ethnos* 1-2:2-28.

Looper, M.G. 2002. "Women-Men (and Men-Women): Classic Maya Rulers and the Third Gender." In *Ancient Maya Women*. Ardren, T. (editor) pp. 171-202. Walnut Creek, CA: Altamira.

Lopez-Olivares, N.M. 1997. "Cultural Odontology: Dental alterations from Peten, Guatemala." In *Bones of the Maya: Studies of Ancient Skeletons*. Whittington, S.L. & Reed, D.M. (editors) pp. 105-116. Washington: Smithsonian Institution Press.

Marcus, M.I. 1993. *Incorporating the Body: adornment, gender, and social identity in ancient Iran*. Cambridge Archaeological Journal 3(2):157-178.

Meskell, L.M. 1998. "The Irresistible Body and the Seduction of Archaeology." In *Changing Bodies, Changing Meanings: Studies in the Human Body in Antiquity*. Montserrat, D. (editor) pp. 139-161. London: Routledge.

Montserrat, D. (editor) 1998. *Changing Bodies, Changing Meanings: Studies on the Human Body in Antiquity*. London: Routledge.

Pendergast, D.M. 1979. Excavations at Altun Ha, Belize, 1964-1970 Volume 1. *Archaeological Monographs of the Royal Ontario Museum*. Toronto: The Alger Press.

Pendergast, D.M. 1982. Excavations at Altun Ha, Belize, 1964-1970 Volume 2. *Archaeological Monographs of the Royal Ontario Museum*. Toronto: The Alger Press.

Pendergast, D.M. 1990. Excavations at Altun Ha, Belize, 1964-1970 Volume 3. *ArchaeologicalMonographs of the Royal Ontario Museum*. Toronto: The University of Toronto Press.

Osborne, R. 1998. Men Without Clothes: heroic nakedness and Greek art. *Gender and History: Gender and Body in the Ancient Mediterranean* 9(3):80-104.

Pyburn, K.A. (editor) 2004. *Ungendering Civilization*, New York: Routledge.

Reilly, K.R. 2002. "Female and Male: The Ideology of Balance and Renewal in Elite Costuming among the Classic Period Maya." In *Ancient Maya and Gender Identity and Relations*. Gustafson, S.L. & A.M. Trevelyan (editors) pp. 319-328. Westport, CT: Bergin & Garvey.

Romero, J. 1970. Dental mutilation, trephination, and cranial deformation. In *Handbook of Middle American Indians*. Vol.9. Stewart, T.D. (editor). Washington: Smithsonian Institution.

Roys, R. L. (translated by) 1967. *The Book of Chilam Balam of Chumayel*. Norman: Univesity of Oklahoma Press.

Saul, F.P. 1972. The Human Skeletal Remains of Altar de Sacrificios. *Papers of the Peabody Museum of Archaeology and Ethnology* Vol. 63, No. 2. Cambridge: Harvard University.

Saul, F.P. 1975. "Appendix 8 – Human Remains from Lubaantun." In *Lubaantun, A Classic Maya Realm*. Hammond, N. (editor) pp. 389-410. Peabody Museum Monographs no.2. Peabody Museum of

APPENDIX A. Raw Data before coding

Site	Component	Burial #	Sex	CMPres.	CMType	DMPres.	DMType and Location
Cuello[1]	Late PreClassic	19	M	Y	lambdoid flattening	Y	B-2 on ULI
		21	M	Y	lambdoid flattening	N	
		28	M	Y	tabular erect	N	
		45	**M**	**N**		**Y**	**C-2 OR C-6**
		80	F	Y	lambdoid flattening and occipital bunning	N	
		88	F	Y	lambdoid flattening and occipital bunning	N	
		104	M	Y	lambdoid flattening	N	
		105	**M**	**Y**	**tabular erect**	**Y**	**F-3 or F-4 UI**
		107	M	Y	lambdoid flattening	N	
		112	F	Y	lambdoid flattening	Y	F-4 on UI
		113	M	Y	tabular erect	N	
		125	M	Y	lambdoid flattening	N	
	Classic Period	**136**	**M**	**N**		**Y**	**B-2 or B-4 on UI**
Rio Azul[2]	Early Classic Period		M	Y	tabular oblique		
			F	Y	tabular oblique		
		tomb 19	M	Y	tabular erect		
		tomb 23	M	Y	tabular erect	Y	E-1 on L3PM
			F	Y	tabular erect	Y	C-4
			M	**Y**	**tabular ?**		
			M	**Y**	**tabular ?**		
			M	**Y**	**tabular ?**		
			F	**Y**	**tumpline?**		
Iximche[3]	Late Postclassic	IX-1	F	Y	fronto-occipital		
		IX-5	M	Y	occipital		
		IX-6	F	Y	fronto-occipital		
		IX-10	M	Y	occipital		
		IX-13	M	Y	occipital		
		IX-23	F	Y	fronto-occipital		
		IX-25	F	Y	fronto-occipital		
		IX-27	M	Y	fronto-occipital		
		IX-28	F	Y	occipital		
		IX-31	M	Y	fronto-occipital		
		IX-33	M	Y	occipital		

		IX-48	F	Y	fronto-occipital		
		IX-50	F	Y	occipital		
		IX-51	M	Y	occipital		
		IX-52	M	Y	occipital		
		IX-62	M	Y	fronto-occipital		
Seibal[4]	Late PreClassic	18	F			Y	E-1 on all UI and 2 on UC
		30	M	Y	tabular erect	N	
		6	M			Y	E-1 on 2 UC
	Classic Period	24	M			Y	A-2 and E-1 inlaying on U1I's
		29	**M**	**Y**	**tabular oblique**	**Y**	**C-5 on UR1I**
		36	M			Y	G-1 on all U1I's and 2I
		37	M	N		Y	E-1 on all UI's and 2 C
		43	**M**			**Y**	**E-1 on UR2I and URC**
	Bayal Phase	1	F	Y	tabular oblique	N	
		2	M	Y	tabular oblique	N	
		4--2	M	T	tabular erect	N	
		4--4	M	Y	tabular oblique	N	
		4--5B	M	Y	tabular oblique	N	
		4--6	**M**	**Y**	**?**	**N**	
		4--8	M	Y	tabular erect	N	
		4--9	M	Y	tabular oblique	N	
		4--10	M	Y	tabular erect	N	
		4--11	M	Y	tabular erect	N	
		10A	F	Y	tabular oblique	N	
		15	F	Y	tabular oblique	N	
		20	M	T	tabular oblique	N	
		34	M	Y	tabular oblique	N	
A. de Sacrificios[5]	Classic (A.D. 450 - 900)	112	M	N		Y	A-4 on U1I's and altar type I (not in Romero) on 2I's
		6	M	N		Y	A-1 on all UI's
		85	M	N		Y	A-2 on U1I's and B-5 on UC's
		96	F	Y	tabular oblique	Y	B-5 on UC's and G-1 on U21's and G-2 on U1I's
		128	F	Y	tabular oblique	Y	E-1 on all UI's UC's and U1PM's
		4	**F**	**Y**	**tabular ?**	**Y**	**A-4 and B-4 on ?**
		59	F	N		Y	B-5 on UC's and G-1 and

							G-2
		63	F	N		Y	B-5 on all UI's
		68	F	N		Y	C-5
		74	M	Y	tabular erect	Y	B-5 on UC's
		83	M	N		Y	B-5 on UC's and altar type G (not in Romero) on U and L1I's
		65	M	Y	lambdoid flattening	N	
		95	F	N		Y	altar type G (not in Romero) on U1I's
		39	F	Y	tabular oblique	N	
		64	M	Y	tabular erect	N	
		88	M	Y	tabular oblique	N	
		40	M	Y	tabular erect	N	
		43	F	Y	tabular oblique	N	
		55	**M**	**Y?**	**lambdoid flattening?**	**N**	
		63	F	Y	tabular oblique	N	
	E Postclassic (A.D. 900-950)	23	M	N		Y	E-1 on upper cental incisors and upper left canine
		57	F	Y	tabular erect	Y	A-2 (upper incisors) and B-4 (lower incisors) and B-5
		67	F	Y	tabular oblique	Y	B-5 (upper incisors) B-4 (lower incisors) and B-5
		70	M	N		Y	
		52	M	Y	tabular erect	N	
		60	F	Y	tabular oblique	N	
		61	F	Y	tabular oblique	N	
		62	M	Y	tabular erect	N	
Lubaantun[6]	Classic Period	**bag 1a**	**F**			**Y**	**B-2 on upper I2 and Canine**
		bag 3	**M**			**Y**	**C-2 on upper I1 and I2**
		bag 4	**M**			**Y**	**E or G on upper I1 and I2 and Canine**
		bag 5	**F**			**Y**	**C-2 or C-6 on UL1I and F8 on U?**
		bag 11b	**M**			**Y**	**C-2 on upper right I1**
		cache	**F**			**Y**	**B-2 on upper**

		1a					**left and right I1**
		cache 1b	**M**			**Y**	**B-1 on upper right I1**
		L135	**M**			**Y**	**C-4 on upper right I1 and I2 and B-5 on UC's**
		L175b	**F**			**Y**	**B-2 on upper I1**
Altun Ha [7]	T Classic/E Post-Classic	B-3/1	F			Y	B-4 on upper left and right second incisors
		B-3/2	F			Y	B-5 on upper left and right first incisors
		B-4/1	M			Y	C-3 on all four upper incisors
	Kankin Phase - Classic Period	C-10/5	F			Y	B-4 on upper rigth first incisor
		C-13/5 C	M			Y	C-3 on upper right and left first incisors
		C-13/5 D	F			Y	C-3 on upper right and left first incisors
		C-13/20	F	Y	occipital flattening		
		C-16/21	M			Y	B-3 on upper left first incisor
		C-18/7	**M**			**Y**	**B-4 on upper right canine**
		C-22/8	**F**			**Y**	**B-4 on upper left first incisor and C-3 on ULC**
		C-23/1	M			Y	A-1 on upper left and right first incisors
		D-10/3	M			Y	E-1 on upper left second incisor (jade inlay)
		E-7/2 A	M			Y	E-1 on lower left first incisor and E-3 on L2I's
		E-7/2 B	M			Y	E-1 on all four upper incisors
		E-7/40 A	M			Y	E-1 on all upper and lower incisors
		E-14/7	M			Y	C-3 on UL2I,

						UR1I and UC's
		E-14/2	M		Y	B-5 on upper left second incisor
		E-21/5	M		Y	E-1 on all four upper incisors
		E-44/13	**F**		**Y**	**E-1 on U2I's UC's and LRC**
		E-44/15	F		Y	B-4 on upper left and right second incisors
		E-44/14	M		Y	E-1 on upper second incisor (jade inlay)
		E-44/5	**F**		**Y**	**B-4 on URC and LL1I and C-6 on U1I's**
		E-44/9	F		Y	B-4 on upper left and right first incisors
		E-44/10	F		Y	C-4 on upper left and right first incisors
		E-44/2	**F**		**Y**	**B-5 on U1I's and C-3 on U2I's**
		E-44/3	M		Y	C-3 on upper right first and second incisors
		E-44/7	M		Y	A-3 on upper left and right second incisors and A-2 on UC's
		E-49/1 C	M		Y	B-4 on upper left and right first incisors
		H-1/7 A	F		Y	E-1 on upper left canine (pyrite inlay)
		H-1/3	F		Y	B-4 on upper left first incisor
		K-29/7 A	**M**		**Y**	**B-4 on upper right second incisor**
		K-32/4	F		Y	A-2 on upper right canine
		K-35/5	F		Y	C-6 on U1I's UL2I and UC's
Uaxactun[8]	Late	**200**	**M**	**N**	**Y**	**A-1 on lower**

	PreClassic						**incisors**
		228	F	Y	tabular oblique	Y	B-5 on incisors and canine
	Classic Period	191	F	Y	tabular erect	Y	C-7 on 2 UI's, C-1 on all LI's and B-4 on canine
		195	M	N		Y	F-4 on canine
		202	**M**	**N**		**Y**	**E-1 on lower incisors and 4 canines**
Yaltutu[9]	Late PreClassic	PSP-017	M	N		Y	A-2 on upper incisors, G-1 on canine
		PSP-017	**M**	**N**		**Y**	**New type of inlay on uper incisors**
Ixtonton[10]	Classic Period	PSP-013	M	N		Y	E-3 on incisors
		PSP-042	**F**	**N**		**Y**	**B-5 on incisor, C-6 on canine**
Chau Hiix[11]	Postclassic	CH0561	M	N		Y	B-4 on upper first incisor
		CHT 0813	M	N		Y	B-4 on L1I's, C-3 on L2I's and LC's
Tipu[12]	Postclassic	MT 4	F	N		Y	A-2 on all UI's, A-1 on all LI's
		MT 81	M	N		Y	? On lower first incisors
		MT 141	F	N		Y	A-2 on U1I's, A-1 and Borb. type B on UL2I, A-1 on L1I's, C-5 on U and LC's
		MT 174	F	N		Y	? On lower rigth first incisor
		MT 279	M	N		Y	C-2 on lower first incisor
		MT317	M	N		Y	C-9 on upper incisors and lower second incisors
Zaculeu[13]	**Atzan Phase**	**1-4 A**	**F**	**N**		**Y**	**type j,k, or l on upper incisors and canines**
		13-16	M	N		Y	Borbolla type M on U1I's and type N on 2I's and C's

	13-19	**F**	**Y**	**frontal ?, occipital flattening**	**N**	
	13-20	M	Y	frontal flattening, occipital ?	N	
Chinaq Phase (Classic)	6-1	M	Y	fronto-occipital flattening	N	
	6-12	M	Y	frontal ?, occipital rounded	N	
	6-19	M	Y	fvo flattening	N	
	13-12	M	Y	fvo flattening	N	
	1-13	**F**	**Y**	**psuedocircular**	**N**	
	1-15 A	M	Y	psuedocircular	N	
	9-3	M	Y	psuedocircular	N	
	9-4	M	Y	psuedocircular	N	
Qankyak Phase (Postclassic)	12-1 A	F	Y	fvo flattening	N	
	12-1 B	**F**	**Y**	**fvo flattening**	**N**	
	1-2 C	M	Y	fvo flattening	N	
	13-1 A	M	Y	fvo flattening	Y	type ? On upper incisors same as above on upper left second incisor
	13-2 A	M	Y	fvo flattening	Y	
	13-2 B	M	Y	fvo flattening	N	type J on upper right second incisor
	13-2 C	F	Y	fvo flattening	Y	
	13-2 D	M	Y	fvo flattening	N	
	13-6 B	M	Y	fvo flattening	N	
	13-6 H	M	Y	lambdoid flattening	N	
	13-6 E	**F**	**Y**	**fvo flattening**	**N**	
	13-23	M	N		Y	Type C on upper incisors, type a on lower incisors
	3-1 A	M	Y	fvo flattening	N	
	3-1 B	M	Y	fvo flattening	N	
	3-3 B	M	Y	fvo flattening	N	
	4-1 A	**M**	**Y**	**fvo flattening**	**Y**	**Same type as burial 13-1 A on upper incisors**
	4-1 B	**F**	**Y**	**fvo flattening**	**N**	
	15-1 A	F	Y	psuedocircular	N	
	15-1 B	M	Y	fvo flattening	N	
	15-1 C	M	Y	fvo flattening	N	
	15-1 D	M	Y	fvo flattening	N	
	16-2 A-B	M	Y	fvo flattening	N	
	24-1	**F**	**Y**	**fvo flattening**	**N**	
	4-2	M	Y	fvo flattening	N	

		4-3	F	Y	fvo flattening	N	
Uaxactun[14]	Classic Period	**A6**	**M**	**Y**	**?**		
		A11	M	Y	fronto-occipital	N	
		A17	M	Y	fronto-occipital	N	
		A19	F	N		Y	C-3 on upper incisors and B-5 on lower canines
		A27	M	Y	fronto-occipital	Y	E-1 on Upper Incisors and Canines
		A31	M	Y	fronto-occipital	N	
		A32	F	Y	fronto-occipital	N	
		A34	**M**	**N**		**Y**	**G-2 on U1I's and E-1 on U2I's and UC's**
		A37	**F**	**Y**	**fronto-occipital**	**Y**	**B-5 on U1I's and UC's and A-4 on U2I's**
		A40	M	Y	fronto-occipital	Y	E-1 on upper central incisors, A-4 on U2I's, and B-5 on UC's
		A51	F	N		Y	F-9 on upper central incisors, C-9 on U2I's, and B-5 on UC's
		B2	F	Y	fronto-occipital	N	
		B2	F	Y	fronto-occipital	N	
		C2	**F**	**N**		**Y**	**Filed ? On Lower Incisors**
	Postclassic	A13	M	Y	fronto-occipital	N	
		A18	**F**	**Y**	**fronto-occipital**	**N**	

Sources: 1) Hammond (1991); 2) Saul & Saul (2000); 3) Whittington (2003); 4) Tourtellot III (1990); 5) Saul (1972), Smith (1972); 6) Saul & Hammond (1973), Saul (1975); 7) Pendergast (1979, 1982, 1990); 8) Lopez-Olivares (1997); 9) Lopez-Olivares (1997); 10) Lopez-Olivares (1997); 11) Havill et al. (1997); 12) Havill et al. (1997); 13) Stewart (1953); 14) Smith (1950)